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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/683,997	03/11/2002	Tatsuya Anma	SIMTEK6299	4716

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EXAMINER	
LE, DANG D	

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 05/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/683,997	ANMA ET AL.	
	Examiner	Art Unit	
	Dang D Le	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

In addition, it is noted that the Naoki reference does prevent the generation of a circulating current as disclosed in paragraph 0017.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naoki (JP 2001197696) in view of Nishio et al.

Regarding claim 1, Naoki shows a permanent magnet type three-phase AC rotary electric machine including a permanent magnet element (7) having a number of permanent magnet poles (6) and a coil winding element (1) having a number of slots, each of said three phases being connected in a line current circuit and being comprised of a parallel circuit (Figure 6) formed by connecting a plurality of series circuits in parallel (4a, 4b, 4g and 4h), said coil winding element comprising cores (3) of each of said series circuits combined such that electromotive voltages or counter electromotive voltages generated across opposite ends of said plurality of series circuits forming each phase are substantially the same (due to the balance of impedances of circuits) based on symmetry of arrangement of said permanent magnets (6) and said coils (4a, 4b, 4g and 4h), thereby preventing generation of a circulating current in said parallel circuit.

Naoki does not show the cores (3) of each of said series circuits being encircled by alternately wound coils.

Nishio et al. show the cores (C1-C18) of each of said series circuits being encircled by alternately wound coils (Figure 7 and 10A-10C) for the purpose of reducing cogging torque.

Since Naoki and Nishio et al. are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to encircle the cores of each of the series circuit with alternately wound coils as taught by Nishio et al. for the purpose discussed above.

Regarding claims 2 and 4, it is noted that Naoki also shows the permanent magnet element having n-number of permanent magnet poles (14 in Figure 1) and the coil winding element having m-number slots (12 in Figure 1) and the value of m is at least 6.

Regarding claim 3, it is noted that Naoki also shows the phases being connected in a Y configuration (Figure 6).

Regarding claim 7, it is noted that Naoki also shows the number n of poles and said number m of slots having a common devisor (which is 2 for 14 and 12).

Regarding claim 8, it is noted that Naoki also shows the number m of slots being a multiple of 3 represented as 3M (12 = 3 x 4), M is at least 4, M coils (4 coils) corresponding to one phase are divided into L sets (2 sets) each comprising M/L coils connected in series (2 coils in series, Figure 7).

Regarding claim 9, it is noted that Naoki also shows the number n of poles and the number m of slots satisfying the following relations, respectively; n = 2N (14 = 2 x 7, N=7), m = 3M (12 = 3 x 4, M=4) wherein N and M (7, 4) are integers, and also satisfy the following equation; $2m/3 < n < 4m/3$ ($8 < n=14 < 16$).

5. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naoki in view of Nishio et al. as applied to claim 1 above, and further in view of Kilgore.

Regarding claim 5, the motor of Naoki modified by Nishio et al. includes all of the limitations of the claimed invention except for the phases being connected in a delta configuration.

Kilgore shows the phases being connected in a delta configuration for the purpose of balancing the voltages.

Since Naoki, Nishio et al., and Kilgore are all from the same field of endeavor; the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to connect the phases in a delta configuration as taught by Kilgore for the purpose discussed above.

Regarding claim 6, it is note that Naoki also shows the permanent magnet element having n-number of permanent magnet poles (14) and the coil winding element having m-number slots (12) and the value of m is at least 6.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Information on How to Contact USPTO

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dang D Le whose telephone number is (703) 305-0156. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

May 22, 2003

DANG LE
PRIMARY EXAMINER